Forbo Adhesives, LLC

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ADHESIVES

8am to 5pm Phone: 1-919-433-1334

24-Hour Emergency Phone: 1-800-424-9300

Effective Date: 10/1/09 Material Safety Data Sheet MSDS No: 4374

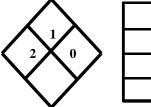
1. PRODUCT IDENTIFICATION

Trade Name: EVER-LOCK® 22014-6N

Material Code: 22014-6N

Chemical Family: Modified Polyamine

Intended Use: Urethane Curing Agent



Health: 2*
Flammability: 1
Reactivity: 0
Personal Protection:

NFPA RATING HMIS RATING

2. COMPOSITION / INFORMATION ON INGREDIENTS

O S	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS					CARCINOGEN STATUS		
H			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
A			TWA	STEL	PEL	STEL				
	108-01-0	Dimethylethanolamine	NE	NE	NE	NE	NE	NR	NR	NR
	Common	Dimethylethanolamine								
	Name:									
	Concentration	1.00 - 3.00 % by wt								
	280-57-9	1,4-Diazabicyclo[2.2.2]octane	NE	NE	NE	NE	NE	NR	NR	NR
	Common	Triethylenediamine								
	Name:									
	Concentration	1.00 - 3.00 % by wt								
	7732-18-5	Water	NE	NE	NE	NE	NE	NR	NR	NR
	Common	Water								
	Name:									
	Concentration	90.00 - 95.00 % by wt								
	Proprietary	Surfactant	NE	NE	NE	NE	NE	NR	NR	NR
	Concentration	1.00 - 2.00 % by wt								

NE = Not Established NR = Not Reviewed

Reference Notes: Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits.

3. HAZARDS IDENTIFICATION

Emergency Overview: Appearance: Clear Light Yellow Liquid. Mild Amine odor.

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Direct contact causes severe eye irritation. Harmful if inhaled, absorbed through skin, or swallowed. Vapors are irritating to the respiratory tract.

Route(s) of Entry: Inhalation, skin and eye contact.

Acute Exposure: EYES: Direct contact with this material causes severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, halo vision characterized by blurring vision around bright objects, and eye damage.

SKIN: Contact causes skin irritation.

INHALATION: Inhalation of vapor or aerosol causes irritation of the respiratory tract (nose, throat, and lungs). Material is harmful or fatal if liquid is aspirated into the lungs. Aspiration into lungs may cause chemical pneumonia and lung damage. May cause respiratory sensitization in susceptible individuals.

INGESTION: Moderately toxic. May be fatal if swallowed. Ingestion (swallowing) of this material may burn the mouth, throat, and stomach.

Chronic Exposure: Prolonged or repeated exposure may cause respiratory sensitization, an allergic reaction that becomes evident on re-exposure to this material.

Carcinogenicity: This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with large quantities of clean water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Immediately flush skin with water for at least 15 minutes while removing contaminated clothing. Get immediate medical attention. Wash contaminated clothing before reuse.

Ingestion: DO NOT INDUCE VOMITING. ASPIRATION HAZARD: this material may enter the lungs during vomiting. Immediately give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

Inhalation: Remove victim to fresh air. Keep warm and quiet. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. GET IMMEDIATE MEDICAL ATTENTION.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable Flammable Limits in Air (Lower): Not available Flammable Limits in Air (Upper): Not available Not available **Autoignition:**

General Hazards: Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers.

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Fire Fighting Extinguishing Media: Use carbon dioxide, foam, dry chemical or water fog to extinguish fire.

Fire Fighting Equipment: Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

Fire Fighting Instructions: Evacuate all persons from the fire area to an explosion-protected location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Use water spray to cool fire-exposed containers. Use water spray to disperse vapors if a spill or leak has not ignited. See Section 13 for disposal considerations.

Hazardous Combustion Products: Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases. Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Effective Date: 10/1/09

Accidental Release Measures: FOR SMALL SPILLS: Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.

LARGE SPILL: Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until cleanup has been completed. Prevent spilled material from 1) contaminating soil, 2) entering sanitary sewers, storm sewers, and drainage systems, and 3) entering bodies of water or ditches that lead to waterways. Shut off the leak when it is safe to do so, dike and pump the liquid into waste containers. See Section 13 for disposal considerations.

7. HANDLING AND STORAGE

Signal Word: WARNING

Handling Information: Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Avoid breathing vapor or fumes. Use with adequate ventilation.

Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner or properly disposed.

Storage Information: Keep container closed when not in use. Store in a cool well ventilated area. Store at temperatures below 80° F (27° C).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines: There are no Occupational Safety and Health (OSHA) Permissable Exposure Limits (PEL) or American Conference of Governmental Industrial Hygenists (ACGIH) Threshold Limit Values (TLV) or Short Term Exposure Limits (STEL) established for the component(s) of this product.

There are no occupational exposure limits established for this dimethylethanolamine (108-01-0) however, a supplier exposure limit of 5 ppm Time Weighted Average (TWA) and 25 ppm Short Term Exposure Limit (STEL) is recommended.

Engineering Controls: Good general ventilation should be sufficient to control airborne levels of irritating vapors. Local ventilation may be required during certain operations.

Eye Protection: Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

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Skin Protection: Wear chemical resistant gloves such as butyl rubber, nitrile rubber or neoprene. If splashing is likely, wear impervious clothing and boots to prevent skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.

Respiratory Protection: Engineering or administrative controls should be implemented to reduce exposure. This material does not have established exposure limits. Where exposure through inhalation may occur from use, a NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be necessary under certain circumstances. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color: Clear, Light Yellow

Mild Amine Odor: **Odor Threshold:** Not available Physical State: Liquid Solubility in Water: Soluble

Viscosity: 0 - 10 cps at 77°F (25 °C)

Vapor Pressure: Not available

Specific Gravity: 1 (Water = 1) at 25° C (77 °F) **Boiling Point:** $> 212^{\circ} \text{ F} (> 100^{\circ} \text{ C}) \text{ Water}$

Melting Point: Not available

Freezing Point: < 32°F (< 0 °C) Water

Evaporation Rate: > 1 (BuAc=1) Vapor Density: > 1 (AIR=1)

% Volatile: 90 - 95 % by weight

Not available pH: Coefficient of water/oil: Not available

10. STABILITY AND REACTIVITY

Stability: Stable at normal temperatures and storage conditions. See Section 7 for additional storage information.

Incompatibility: Avoid contact with strong acids, oxidizing agents (peroxides), metal salts and polymerization catalysts. Avoid contact with primary and secondary amines.

Hazardous Decomposition Products: Thermal decomposition may form: Nitrogen oxides, Carbon dioxide and Carbon monoxide

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: Contamination by those materials referred to under Incompatability. Do not mix this product with nitrites or other nitrosating agents because a nitrosamine may be formed. Nitrosamines may cause cancer.

11. TOXICOLOGICAL INFORMATION

Acute Eye Toxicity: Dimethylethanolamine: (rabbit) 0.005 ml: severe corneal injury, iritis and conjunctival irritation, necrosis of conjunctiva and nictitating membrane, exophthalmos, corneal deformation and opacification.

Triethylenediamine: (rabbit); severe irritation.

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Acute Skin Toxicity: Dimethylethanolamine: LD50 dermal (rabbit-male occluded); 1.87 ml / kg, (rabbit-female occluded), 2.14 ml / kg.

Triethylenediamine: LD50 dermal (rabbit), > 2000 mg / kg (no deaths).

Acute Inhalation Toxicity: Dimethylethanolamine: LC50 inhalation (rat); 1641 ppm / 4 hr.

Triethylenediamine: LC50 inhalation (rat); > 20.0 mg / L / 1 hr (no deaths).

Acute Oral Toxicity: Dimethylethanolamine: oral LD50 (rat-male); 1.75 ml / kg, (rat-female); 1.36 ml / kg.

Triethylenediamine: LD50 oral (rat); 700 mg/kg.

Chronic/Carcinogenicity: This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the United States Occupational Safety and Health Administration (OSHA) as a carcinogen.

Sensitization: Dimethylethanolamine has been demonstrated to be a cause of occupational asthma. Based upon analogy to other amines, this material may cause an allergic reaction by skin contact.

Triethylenediamine has been tested and shown not to cause sensitization in guinea pigs.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Dimethylethanolamine: LC50 (fathead minnow); 81 mg / L / 96 hr.

Environmental Fate: No data is available for this product.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method: Not a RCRA hazardous waste. Disposal of this material is not regulated under RCRA. Consult federal, state and local regulations to ensure that this material and its containers, if discarded, is disposed of in compliance with all regulatory requirements.

"Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes.

RCRA Hazard Class: NOT A RCRA HAZARDOUS WASTE: When discarded in its purchased form, this material would not be regulated as a RCRA Hazardous waste under 40 CFR 261.

14. TRANSPORT INFORMATION

DOT / IATA / IMDG / TDG: Bulk and Non-Bulk

NOT REGULATED **Proper Shipping Name:**

15. REGULATORY INFORMATION

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Occupational Safety and Health Act (OSHA): This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.

SARA Title III: Section 304 - CERCLA: Components of this product are not subject to reporting under the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

SARA Title III: Section 311/312 - Hazard Communication Standard (HCS): This material is classified as an IMMEDIATE HEALTH HAZARD and DELAYED HEALTH HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).

SARA Title III: Section 313 Toxic Chemical List (TCL): This product does not contain any chemicals for routine annual toxic chemical release reporting under Section 313 (40 CFR 372).

TSCA Section 8(b) - Inventory Status: All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

TSCA Section 12(b) - Export Notification: This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

Australian Inventory Status: This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

Canadian Inventory Status: All components of this material are listed on the Canadian Domestic Substances List (DSL).

Canadian WHMIS: This material is classified by the Canadian Workplace Hazardous Material Information System as: D2B (materials causing other toxic effects, toxic material) D1B (materials causing immediate and serious toxic effects, toxic material) E (corrosive material)

European Inventory Status (EINECS): All components are either listed or are exempt from being listed, on the EINECS chemical inventory.

Korean Inventory Status: This product contains only chemicals which are currently listed on the Korean Chemical Substances

California Proposition 65: This product is not known to contain any chemicals listed by the State of California (Safe Drinking Water and Toxic Enforcement Act of 1986) to cause cancer or reproductive toxicity.

Additional Canadian Regulatory Information: This product contains the following chemical(s) listed on the WHMIS Ingredient Disclosure List at or above the specified concentration limit: Triethylenediamine (CAS# 280-57-9)

16. OTHER INFORMATION

MSDS No: 4374

Reason Issued: Updated Sections 3 & 9

Prepared By: Environment, Health & Safety Department

07/08/09 **Supersedes Date:**

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